UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

AUG 29 2012

ACTION MEMORANDUM

SUBJECT: Request for a Time-Critical Removal Action and Exemption from Statutory Limit at the Southside Chattanooga Lead Site, Chattanooga, Hamilton County, Tennessee

FROM: Perry Gaughan, On-Scene Coordinator
Emergency Response and Removal Branch

THRU: Shane Hitchcock, Chief
Emergency Response and Removal Branch

TO: Franklin E. Hill, Director
Superfund Division

SITE ID #: B4J4

I. PURPOSE

The purpose of this Action Memorandum pursuant to Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), is to request and document approval of the proposed time-critical removal action and exemption to the $2 million statutory limit described herein for the Southside Chattanooga Lead Site (the "Site") located in Chattanooga, Hamilton County, Tennessee. The Site poses a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.415(b)(2) criteria for removal actions. The project ceiling, if approved, will be $2,640,000 of which $2,200,000 will be funded from the Regional Removal Allowance.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: TDC981864614
TYPE: Time-Critical Removal

A. Site Description

1. Removal Site Evaluation

The Tennessee Department of Environment and Conservation (TDEC) requested Region 4 Emergency Response and Removal Branch's (ERRB) assistance after discovering that the lawns of one residence and potentially several more were contaminated with lead along Read Avenue near downtown Chattanooga. Initially, one resident along Read

Avenue presented to the emergency room with severe fatigue and abdominal pain. Emergency room blood work indicated lead levels approaching 20 micrograms per deciliter (ug/dl) which alerted TDEC to conduct follow up assessments. TDEC requested assistance from ERRB to characterize the soil around the home, and an initial assessment was conducted in which three homes were assessed as well as a public park and playground area at 1700 Mitchell Avenue. Ten samples were collected and two samples showed elevated lead levels exceeding 400 parts per million (ppm).

Subsequent assessments along Read, Mitchell and Carr Avenues were conducted by ERRB in January and April 2012. Of the 81 homes (162 front and back yards) assessed near downtown Chattanooga, 68 lawns (42%) have lead levels exceeding 400 ppm. Lead levels range from 400 – 4,000 ppm. The 4,000 ppm sample was collected from a lawn at 1624 Read Avenue, and the sample contained very dark fine material, most likely a high concentration of bag-house dust. In addition, the Battle Academy Elementary School which neighbors the site was sampled in mid June 2012. A 20' by 20' grid was laid over the school property and 140 grids were screened using X-ray fluorescence (XRF) spectroscopy. No significant lead contamination was found, and all lead levels were below 55 ppm. Residents were notified of the sampling results from their property on June 26, 2012.

2. Physical Location

The Southside Chattanooga Lead Site is located along Read, Mitchell and Carr Avenues south of Main Street in Chattanooga, Hamilton County, Tennessee (Latitude: 35.0456, Longitude: -85.3097).

3. Site Characteristics

The Site is a residential area encompassed by Read, Mitchell and Carr Avenues south of Main Street in Chattanooga. This area is a blend of young, middle income couples who are renovating older constructed homes and low to middle income retired couples who have resided in the area for 20 plus years. The vast majority of homes were built in the early 1900's.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

Lead is a hazardous substance, as listed in the Title 40 of the Code of Federal Regulations (CFR) 302.4, as referred to in Section 101 (14) of CERCLA, as amended. The presence of lead at elevated levels in soil at the Site constitutes a release or threatened release of hazardous substances into the environment.

5. National Priorities List (NPL) Status

The Site is not on the NPL.

6. Maps, pictures, and other graphic representations

Maps, pictures and other graphics will be made available upon request.

B. Other Actions to Date

1. Previous Actions

The Site was first brought to the EPA's attention by Troy Keith, a TDEC inspector. TDEC learned of a resident along Read Avenue who had become exposed to high levels of lead of incidental soil ingestion either from gardening or other outdoor activities. He initially presented to the emergency room of a local hospital and blood toxicity studies revealed that he had elevated blood lead levels. Subsequent testing of the patient's wife revealed that she also had elevated blood lead levels, and they were both given chelating agents to reduce the lead levels. Interviews with the wife by the Tennessee Department of Health officials revealed that she was an avid gardener and that she and her husband consumed several types of vegetables from the garden. Subsequent assessments conducted by the EPA in conjunction with TDEC are discussed in the Removal Site Evaluation (RSE) section of this memo.

2. Current Actions

Currently the only actions which have taken place over the last year are assessment activities by the EPA in conjunction with TDEC.

C. State and Local Authorities' Role

1. State and Local Actions to Date

The Hamilton County Health Department and TDEC responded initially after being informed of the residential contamination. TDEC has been actively involved throughout the assessment process as well as technical meetings.

2. Potential for Continued State and Local Response

The OSC anticipates that TDEC's Superfund Division will have a continued role in monitoring site removal activities as well as assisting with other anticipated lead assessments throughout the Chattanooga and Hamilton County area. TDEC continues to coordinate with the Tennessee Department of Health in identifying residential areas impacted by lead contamination and further defining whether the contamination is from foundry waste or lead-based paint. Elevated blood lead levels are currently being reviewed from available databases to identify those geographic areas of concern.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. Threats to Public Health or Welfare

Lead present in on-site surface and subsurface soils pose the following threats to public health or welfare as listed in Section 300.415 (b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP):

Section 300.415 (b)(2)(i) Actual or potential exposure to nearby human populations, or the food chain from hazardous substances pollutants or contaminants; TDEC's initial investigation revealed that there is significant lead contamination present in surface soils exceeding 1,000 ppm. The maximum lead concentration detected in surface soils through XRF readings exceeded 10,000 ppm. Sampling conducted by the EPA confirmed elevated lead levels at several residential lots ranging from 400 to 4,500 ppm. The Removal Management Level (RML) for lead for residential exposure scenarios is as low as 400 ppm when children are present. Children, as well as adults, are at risk to come in contact with the contaminants via windborne dust, inadvertent ingestion of contaminated soil, and direct contact with the contaminated surface soils. The EPA recently became aware of one family in which three children have reported blood lead levels approaching 5 ug/dl.

Section 300.415 (b)(2)(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate; XRF levels and laboratory data reveal that elevated lead levels are present at or near the surface in several lawns throughout the Site creating a potential for migration to off-site locations.

Section 300.415 (b)(2)(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; If a removal action is not implemented, there is a potential for weather conditions, such as heavy rain events, to cause off-site migration of lead contamination.

Section 300.415 (b)(2)(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; At the request of TDEC, the EPA has collected sufficient data to proceed with a removal action. It is not anticipated that TDEC or any other state or local agency will be able to carry out the necessary removal action at the Site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

V. EXEMPTION FROM STATUTORY LIMITS

The Site meets the emergency criteria for exemption from statutory limits pursuant to Section 104(c) of CERCLA as amended by SARA. The statutory limits for a removal action are 12 months and $2,000,000 unless the requirements of the statutory exemptions are met. CERCLA section 104(c)(1)(C) allows an emergency exemption under certain conditions including the following:

A. <u>There is an immediate risk to public health or welfare or the environment</u>

Lead contaminated soil has been identified at several homes exceeding the RML of 400 ppm. Removal of the contaminated soil eliminates the exposure of lead to the public health and welfare.

In addition, one couple after learning that their backyard had elevated lead levels decided to consult with their pediatrician and subsequently had the blood lead levels checked of their three young children. The resulting blood lead levels were: 4.0 ug/dl (micrograms per deciliter) of their five-year old son, 3.0 ug/dl of their three-year old and 2.0 ug/dl of their two-year old. Although these levels do not exceed the Center of Disease Controls recommended toxicity level of 5.0 ug/dl for children, it does indicate the need to monitor the blood levels and address known areas of contamination. The potential for similar children's exposure throughout the Site is a major concern and dictates the need to remove contaminated soils in a timely manner.

B. Continued response actions are immediately required to prevent, limit, or mitigate an emergency

Removal actions are necessary to mitigate the spread of lead contaminated soils and residue into all the homes along Read, Mitchell and Carr Avenues. The potential to track surface soils into the living areas of the homes is a high concern to the EPA since this poses an immediate threat to children living in the area.

C. Assistance will not otherwise be provided on a timely basis

Neither the State of Tennessee nor the county government has the resources or funding necessary to properly address the lead contaminated soils on-site.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

EPA's proposed actions include the following:

a. characterize the extent of lead contamination in the lawn via X-ray fluorescence (XRF) spectroscopy,
b. remove grass, shrubs, and trees in known areas of contamination,
c. remove contaminated surficial soil in the area until subsurface soil concentration levels are shown to be below 400 ppm lead via XRF (field confirmatory sampling); place notification barrier, as needed, on properties where lead contamination remains in excess of 400 ppm below two feet,
d. replace excavated soil areas with clean topsoil and sod as necessary,
e. replace shrubs and or trees to the home owners' specifications but not to exceed previous property value (as dictated in CERCLA), and
f. replacing fencing and walkway stone as necessary.

2. Contribution to remedial performance

The proposed removal action is warranted to address the threats discussed in Section III, which meet the NCP Section 300.415 (b)(2) removal criteria. The removal action

contemplated in this Action Memorandum would be consistent with any remedial action.

3. Engineering Evaluation/Cost Analysis (EE/CA)

This proposed action is time-critical and does not require an EE/CA.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

In accordance with the NCP at 40 C.F.R. § 300.415(j), on-site removal actions conducted under the CERCLA are required to attain applicable or relevant and appropriate requirements (ARARs) to the extent practicable considering the exigencies of the situation or provide grounds for invoking a CERCLA waiver under Section 121(d)(4). In determining whether compliance with ARARs is practicable; the lead agency may consider appropriate factors, including (1) the urgency of the situation; and (2) scope of the removal action to be conducted. Additionally, under 40 C.F.R. 300.405(g)(3), other advisories, criteria, or guidance may also be considered (so-called To-Be-Considered or TBC) when conducting the removal action. The site-specific ARARs and TBC for this time-critical removal action, which EPA deems compliance is practicable, are the RCRA regulations on identifying and characterizing waste as hazardous or non-hazardous for disposal purposes.

Under CERCLA Section 121(e)(1), federal, state, or local permits are not required for the portion of any removal or remedial action conducted entirely on-site as defined in 40 C.F.R. § 300.5. *See also* 40 C.F.R. §§ 300.400(e)(1) & (2). On-site means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action. Response actions conducted on-site must comply with the substantive but not administrative requirements of ARARs. Off-site activities such as transportation and disposal of wastes are required to comply with all applicable requirements, including the administrative portions. As provided in CERCLA Section 121(d)(3) and the Off-site Rule at 40 C.F.R. 300.440 *et seq*. the off-site transfer of any hazardous substance, pollutant, or contaminant generated during the response action will be sent to a treatment, storage, or disposal facility that is in compliance with applicable federal and state laws and has been approved by the EPA for acceptance of CERCLA waste. A letter was sent to the State of Tennessee on August 3, 2012, requesting identification of any State ARARs for the EPA's consideration prior to initiation of the on-site response action activities.

5. Project Schedule

Removal activities are anticipated to begin within one month of approval of this Action Memorandum. It is anticipated that once activities begin, this removal action will take no more than seven months to complete.

B. Estimated Costs	Proposed Ceiling
Extramural Costs:	
Regional Allowance Costs:	
ERRS	2,200,000
Non-Regional Allowance Costs:	
START	200,000
Subtotal :	2,400,000
10% Contingency:	240,000
TOTAL EXTRAMURAL COSTS:	**2,640,000**

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

If this response action is significantly delayed or not taken, ongoing migration into the environment will continue, increasing the possibility of exposure to the public, groundwater and environment.

VIII. OUTSTANDING POLICY ISSUES

No outstanding policy issues have been determined at this time.

IX. ENFORCEMENT

Enforcement activities are ongoing. An updated Enforcement Addendum is attached. It is expected that this Site will continue as a fund-lead removal action.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $4,003,548 using the following formula:

(Total Extramural Costs + Total Intramural Costs) + (40.97% x (Total Extramural Costs + Total Intramural Costs)) or ($2,640,000) + ($200,000) + (40.97% x ($2,840,000)) = $4,003,548[1].

[1] Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific directs costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

X. RECOMMENDATION

This decision document represents the selected removal action for the Southside Chattanooga Lead Site, located in Chattanooga, Hamilton County, Tennessee, developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan (NCP). The document is based on the administrative record for the Site.

Conditions at the Site meet the NCP Section 300.415 (b)(2) criteria for a removal action and the CERCLA Section 104(c) Emergency Exemption from the $2 million limitation. This removal action is anticipated to be fund-lead with total project ceiling of **$2,640,000** of which approximately **$2,200,000** will be funded by the Regional Removal Allowance. I recommend your approval of this Action Memorandum.

APPROVED: _____ DATE: 3/29/12

Franklin E. Hill, Director
Superfund Division

DISAPPROVED: _____ DATE: _____

Franklin E. Hill, Director
Superfund Division

Attachments:

1. Enforcement Confidential Addendum